

Application Number 10/608,252
Responsive to Office Action mailed October 3, 2006

JAN 03 2007

REMARKS

This amendment is responsive to the Final Office Action dated October 3, 2006. Applicant has amended claims 6, 12, 16 and 18. The amendments to claims 6, 12, 16 and 18 are to correct antecedent basis only and are not related to the patentability of the subject matter of those claims. Applicant respectfully requests entry of these amendments as these amendments require only a cursory review by the Examiner.¹ Claims 1-26 are pending.

Examiner Interview

As a preliminary matter, Applicant would like to thank the Examiner for taking the time to discuss the pending claims with the Applicant's representative, Daniel Lund, on November 28th, 2006 and November 30th, 2006. During the Interview on November 28th and again on and November 30th, 2006 the Examiner indicated that independent claim 18 would be allowable if it were amended to include the features of claim 8. Applicant thanks the Examiner for this consideration, but has decided not to substantively amend independent claim 18 at this time.

During these discussions, Applicant's representative and the Examiner also discussed the patentability of claim 1. Applicant's representative stated that Larson (USPN 6,321,233) does not teach designating which of a plurality of queue execution modes to use for a selected one of the data access commands based on the selected command's tag. In support of this statement, Applicant's representative referenced FIG. 4 of Larson, which shows the separation of requests into separate inputs: "read requests (in)" and "write requests (in)", occurs before age tags are created in write age FIFOs 66 and 68. Applicant's representative further stated that because read and write commands are already separate by the time age tags are created, the age tags could not possibly designate which of a plurality of queue execution modes to use for a selected one of the data access commands based on the selected command's tag. Instead, in Larson, the location of a data access command is used to designate whether a command in a read command or a write command. The Examiner rebutted that this difference between Applicant's invention and Larson is not found in the language of claim 1. Applicant's representative respectfully disagreed.

¹ MPEP 714.13.

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Claim Rejection Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 1, 3, 5, 7, 9, 10, 11, and 18-24 under 35 U.S.C. 103(a) as being unpatentable over Larson (USPN 6,321,233) in view of Chan et al. (USPN 5,822,772). The Examiner also rejected claim 19 under 35 U.S.C. 103(a) as being unpatentable over Larson in view of Chan and in further view of Snyder, II (USPN 6,189,083), claim 20 over Larson in view of Chan and in further view of Ng (USPN 5,341,351), claim 21 over Larson in view of Chan and in further view of Hoang et al. (USPN 6,026,469), claim 22 over Larson in view of Chan and in further view of Zuravleff et al. (USPN 5,737,547) and claim 24 over Larson in view of Chan and in further view of Morrow (USPN 2003/0046472). Applicant respectfully traverses the rejections. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

Claims 1, 3, 5, 7, 9, 10 and 11

Independent claim 1 recites a method comprising (a) assigning a unique tag for each of several data access commands, and (b) designating which of a plurality of queue execution modes to use for a selected one of the data access commands based on the selected command's tag. Larson and Chan collectively fail to disclose designating which of a plurality of queue execution modes to use for a selected one of the data access commands based on the selected command's tag, as recited in claim 1.

The Examiner indicated that Larson at column 9, lines 64-67 and column 10, lines 1-5 discloses designating which of a plurality of queue execution modes to use for a selected one of the data access commands based on the selected command's tag. However, in column 9, lines 64-67 and column 10, lines 1-5, Larson merely discloses the use of a tag to determine "the relative age of the pending read and write requests." To the extent Larson differentiates between read tags and write tags, their locations, not age tags are used to differentiate between them. Importantly, Larson fails to provide any indication that an age tag may be used to designate which of a plurality of queue execution modes to use.

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In reference to FIG. 3 of Larson, request reception circuitry 94 separates read and write requests to be stored in separate FIFOs 62 and 64 (FIG. 4) of request queue 92.² As shown in FIG. 4, the separation of requests into separate inputs: "read requests (in)" and "write requests (in)", occurs before age tags are created in write age FIFOs 66 and 68. In Larson, the location of a request, not a tag, is used to distinguish between read and write requests. Tags are merely used to distinguish the relative age of pending read and write requests.³ For at least this reason, Larson fails to disclose designating which of a plurality of queue execution modes to use for a selected one of the data access commands based on the selected command's tag as recited by claim 1.

The Examiner has not asserted that Chan discloses or suggests designating which of a plurality of queue execution modes to use for a selected one of the data access commands based on the selected command's tag. Indeed, Applicant finds no support for such a feature in Chan.

Because Larson and Chan each fails to disclose or suggest designating which of a plurality of queue execution modes to use for a selected one of the data access commands based on the selected command's tag, the combination of Larson and Chan would not have made the subject matter of claim 1 obvious at the time of the Applicant's invention.

Dependent claims 3, 5, 7, 9, 10 and 11 are patentable over the applied references for at least the reasons independent claim 1 is allowable over the applied references. In light of the clear differences between the applied references and the invention as claimed in claim 1, Applicant reserves further comment with respect to dependent claims 3, 5, 7, 9, 10 and 11. Applicant request withdrawal of the rejection of claims 1, 3, 5, 7, 9, 10 and 11.

Claims 18-24

Independent claim 18 recites an electromechanical device comprising "a controller configured to determine which of a plurality of queue execution modes to use for a selected one of the pending data access commands based on the selected command's tag." For similar reasons as discussed with respect to claim 1, Larson and Chan fail to teach or suggest a controller configured to determine which of a plurality of queue execution modes to use for a selected one of the pending data access commands based on the selected command's tag. For example, in

² Larson, column 5, lines 14-16.

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contrast to the invention as recited in claim 18, Larson discloses distinguishing between read and write requests prior to assigning an age tag to a request.

Dependent claims 19-24 are patentable over the Larson and Chan for at least the reasons independent claim 18 is allowable over the cited Larson and Chan. Furthermore, the additional references applied in the rejections of claims 19-22 and 24 fail to overcome the deficiencies of Larson and Chan with respect to claim 18. In light of the clear differences between the applied references and the invention as claimed in claim 18, Applicant reserves further comment with respect to dependent claims 19-24. Applicant request withdrawal of the rejection of claims 18-24.

For at least these reasons, the Examiner has failed to establish a prima facie case for non-patentability of Applicant's claims 1, 3, 5, 7, 9, 10, 11, and 18-24 under 35 U.S.C. 103(a). Withdrawal of this rejection is requested.

Allowable Subject Matter

In the Final Office Action, the Examiner indicated that claims 16 and 17 are allowable in their present form, and objected to claims 2, 4, 6, 8, 12-15 and 25-26 as including subject matter that would be allowable if rewritten in independent form.

Applicant has not substantively amended claims 16 and 17. Therefore, claims 16 and 17 remain in condition for allowance for at least the reasons set out in the Final Office Action.

³ Larson, column 5, lines 22-26.

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CONCLUSION

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date:

By:

JANUARY 3, 2007
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